Mr. Fred Emmert
GBMD, Inc.
1520 Mishawaka Street
Elkhart, IN 46516

Re: **039-12046**
Significant Source Modification to:
Part 70 permit No.: **T039-6921-00312**

Dear Mr. Emmert:

GBMD, Inc. was issued Part 70 operating permit T039-6921-00312 on December 31, 1998 for the operation of a truck and van conversion source. An application to modify the source was received on March 16, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units (which already exist at the source) are approved for a revised volatile organic compound (VOC) emission limit of less than one hundred and fifty (150) tons per year:

(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters as particulate matter (PM) overspray control, and exhausting to stacks E1, E2 and E3;

(b) Two (2) assembly areas, identified as EU4, with a total maximum capacity of three (3) vans or trucks per hour.

The following conditions are applicable to the proposed project:

(a) Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

(b) Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

(c) All requirements and conditions of this approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

(d) Pursuant to 326 IAC 2-7-10.5(l) the emission limit from the existing units established under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Linda Quigley, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (973) 575-2555, ext. 3284 or dial (800) 451-6027, press 0 and ask for 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
LQ/EVP
cc: File - Elkhart County
U.S. EPA, Region V
Elkhart County Health Department
Northern Regional Office
Air Compliance Section Inspector - Paul Karkiewicz
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

PART 70 OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

GBMD, Inc.
1520 Mishawaka Street
Elkhart, Indiana 46515

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T039-6921-00312	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: December 31, 1998

First Significant Source Modification: 039-12046	Pages Affected: 3, 4, 5, 27, 28, 29, 30, 31, 35, 36, 37
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

D.2 FACILITY OPERATION CONDITIONS - Woodworking areas

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Certification Form
Emergency/Deviation Occurrence Report
Semi-Annual Compliance Monitoring Report
Two (2) Quarterly Report Forms

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary van and truck conversion source.

Responsible Official:	Fred Emmert
Source Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Phone Number:	(219) 262-3474
SIC Code:	3716
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) surface coating paint booth, ~~known~~ identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters as particulate matter (PM) overspray control, and exhausting through stacks E1, E2 and E3;

(b) Two (2) assembly areas, identified as EU4, with a total maximum capacity of three (3) vans or trucks per hour;

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters for overspray control and exhausting at three (3) stacks, identified as E1, E2 and E3; and
(b) Two (2) assembly areas, identified as EU4, with a maximum capacity of three (3) vans or trucks per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(b) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water, based on 30-day weighted average;

(c) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water, based on 30-day weighted average;

(d) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water, based on 30-day weighted average;

(e) The following pollution prevention techniques shall be adhered to:

(1) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control;

(2) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air;

(3) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures;

(4) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed;

(5) All solvent sprayed during cleanup or color changes in EU2 shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

(6) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use;

(7) The EU2 paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

(8) Coatings will be used that contain the lowest levels of VOC possible. The use of exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Vehicle Limitation [326 IAC 8-2-9]

The number of vehicles coated shall be limited to thirty-four (34) vehicles per day and any change or modification which increases the number of vehicles coated per day to thirty-five (35) or greater shall require IDEM, OAMs prior approval before any such change may occur. Therefore, 326 IAC 8-2-9 does not apply.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to CP-039-4365-00312, issued on May 31, 1995, and pursuant to 326 IAC 6-3-2, the PM from the one (1) paint booth (EU2), and the two (2) assembly areas (EU4), shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period).

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2, the dry filters for PM control shall be in operation at all times when the one (1) paint booth (EU2) is in operation.

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters when EU2 is in operation. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) for any week during which EU2 is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed, for any month during which EU2 is in operation, of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Conditions D.1.1(a) through (d), the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The 30-day weighted average VOC content for each type of coating materials;

(5) The total VOC usage for each month; and

(6) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.9 and D.1.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.3, the Permittee shall maintain a record of the number of vehicles coated per day.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(a) through (d) and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 2.11 pounds per hour when operating at a process weight rate of 740 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T039-6921-00312

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually based on a calendar year. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T039-6921-00312
Facility: One (1) surface coating paint booth (EU2), and two (2) assembly areas (EU4)
Parameter: Volatile organic compounds (VOC)
Limit:
(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve (12) consecutive month period.
(b) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water, based on 30-day weighted average;
(c) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water, based on 30-day weighted average; and
(d) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water, based on 30-day weighted average.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOCThis Month (tons)	VOC Previous 11 Months (tons)	12 Month Total VOC (tons)
Month 1			
Month 2			
Month 3			

30-day Weighted Average VOC Content (in pounds per gallon less water):
Sealers:_____ Paints:_____ Solvents:_____

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-6921-00312
Facilities: One (1) surface coating paint booth (EU2) and two (2) assembly areas (EU4)
Parameter: Number of vehicles coated
Limit: Thirty-four (34) vehicles per day, each, for EU2 and EU4

Month: _____ **Year:**_____

Day	# of Vehicles Coated		Day	# of Vehicles Coated	
	EU2	EU4		EU2	EU4
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			no. of deviations		

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is not required for this report.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters for overspray control and exhausting at three (3) stacks, identified as E1, E2 and E3; and
(b) Two (2) assembly areas, identified as EU4, with a maximum capacity of three (3) vans or trucks per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(b) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(c) The VOC content of the paints applied shall not exceed 9.15 pounds per gallon less water;

(d) The VOC content of the solvents applied shall not exceed 7.58 pounds per gallon less water;

(e) The following pollution prevention techniques shall be adhered to:

(1) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control;

(2) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air;

(3) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures;

(4) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed;

(5) All solvent sprayed during cleanup or color changes in EU2 shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

(6) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use;

(7) The EU2 paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

(8) Coatings will be used that contain the lowest levels of VOC possible. The use of exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Vehicle Limitation [326 IAC 8-2-9]

The number of vehicles coated shall be limited to thirty-four (34) vehicles per day and any change or modification which increases the number of vehicles coated per day to thirty-five (35) or greater shall require IDEM, OAMs prior approval before any such change may occur. Therefore, 326 IAC 8-2-9 does not apply.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to CP-039-4365-00312, issued on May 31, 1995, and pursuant to 326 IAC 6-3-2, the PM from the one (1) paint booth (EU2), and the two (2) assembly areas (EU4), shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period).

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2, the dry filters for PM control shall be in operation at all times when the one (1) paint booth (EU2) is in operation.

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters when EU2 is in operation. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) for any week during which EU2 is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed, for any month during which EU2 is in operation, of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.9 and D.1.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.3, the Permittee shall maintain a record of the number of vehicles coated per day.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(a) and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 2.11 pounds per hour when operating at a process weight rate of 740 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T039-6921-00312
Facility: One (1) surface coating paint booth (EU2), and two (2) assembly areas (EU4)
Parameter: Volatile organic compounds (VOC)
Limit: The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve (12) consecutive month period

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC This Month (tons)	VOC Previous 11 Months (tons)	VOC 12 Month Total (tons)
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T 039-6921-00312
Facilities: One (1) surface coating paint booth (EU2) and two (2) assembly areas (EU4)
Parameter: Number of vehicles coated
Limit: Thirty-four (34) vehicles per day, each, for EU2 and EU4

Month: _____ **Year:**_____

Day	# of Vehicles Coated		Day	# of Vehicles Coated	
	EU2	EU4		EU2	EU4
1			17		
2			18		
3			19		
4			20		
5			21		
6			22		
7			23		
8			24		
9			25		
10			26		
11			27		
12			28		
13			29		
14			30		
15			31		
16			no. of deviations		

9 No deviation occurred in this month.

9 Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is not required for this report.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	**GBMD, Inc. (formerly Coachmen Automotive)**
Source Location:	**1520 Mishawaka Street, Elkhart, Indiana 46515**
County:	**Elkhart**
SIC Code:	**3716**
Operation Permit No.:	**T 039-6921-00312**
Operation Permit Issuance Date:	**December 31, 1998**
Source Modification No.:	**SSM 039-12046-00312**
Permit Reviewer:	**LQ/EVP**

The Office of Air Management (OAM) has reviewed a modification application from GBMD, Inc. relating to the operation of a truck and van conversion source.

History

On March 16, 2000, GBMD, Inc. submitted an application to the OAM requesting to revise the current VOC emission limit of 48 tons per year to 150 tons per year. Additionally, on March 18, 2000, GBMD, Inc. submitted a letter stating that Coachmen Automotive had sold its operations and agreed to assign its permits to GBMD, Inc. GBMD, Inc. was issued a Part 70 permit on December 31, 1998.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of 3 vans or trucks per hour, using dry filters as particulate matter (PM) overspray control, and exhausting to stacks E1, E2 and E3;

(b) Two (2) assembly areas, identified as EU4, with a total maximum capacity of 3 vans or trucks per hour;

Note: The two (2) woodworking areas, identified as EU3, that were previously controlled by scrubbers, are now each controlled by one (1) baghouse and are considered insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source was issued a Part 70 Operating Permit T039-6921-00312 on December 31, 1998.

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 16, 2000. Additional information was received on July 19, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 - 2).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the Potential to Emit before controls for the modification. Control Equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM-10	less than 100
PM	less than 100
SO_2	less than 100
VOC	greater than 100, less than 250
CO	less than 100
NO_x	less than 100

HAP's	Potential To Emit (tons/year)
Toluene	greater than 10
Xylene	greater than 10
Hexane	greater than 10
MIBK	greater than 10
Ethyl Benzene	less than 10
MDI	less than 10
MEK	less than 10
TOTAL	greater than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of particulate matter (PM), particulate matter with an aerodynamic diameter at or below 10 microns (PM-10), and volatile organic compounds (VOC) are equal to or greater than 25 tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single hazardous air pollutant (HAP) is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit application was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Justification for Modification

The Title V permit is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(2) because the source has the potential to emit VOC greater than 25 tons per year.

Additionally, the source submitted records indicating that the two (2) cyclone dust collectors for the woodworking areas have been replaced with two (2) baghouses with a design grain loading of 0.03 grains per actual cubic foot and a gas flow rate of 4,000 actual cubic feet per minute, making the woodworking areas insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone.

Potential to Emit After Controls for the Modification

The table below summarizes the potential to emit, reflecting all limits, of the modification after controls. The control equipment for the modification is considered federally enforceable only after issuance of the Part 70 permit modification.

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)	Single HAP	Total HAPs
Proposed Modification	9.30	9.30	--	150.00	--	--	33.22	101.70
PSD Significant Levels	250	250	250	250	250	250	N/A	N/A
Note: This source will be able to keep its PSD Minor status.								

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) This source is not subject to the National Emission Standards for Hazardous Air Pollutants, from Wood Furniture Manufacturing Operations, 326 IAC 14, (40 CFR 60.800, Subpart JJ). IDEM determined in the TSD Addendum for Part 70 Permit T039-6921-00312, issued December 31, 1998, that the installation of wood cabinets does not constitute a manufacturer of wood furniture or wood furniture component.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of volatile organic compounds in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

(a) Pursuant to 326 IAC 6-3-2 the particulate matter (PM) from the two (2) woodworking areas shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10(0.37^{0.67}) = 2.11$ lb/hr

Based on the above equation, particulate matter emissions from the two (2) baghouses shall be limited to 2.11 lb/hr.

The two (2) baghouses shall be in operation at all times the two (2) woodworking facilities are in operation, in order to comply with this limit.

(b) The particulate matter (PM) from the paint spray booth shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The dry filters shall be in operation at all times the paint spray booth is in operation, in order to comply with this limit.

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the potential to emit (PTE) ten (10) tons per year of any HAP or twenty-five (25) tons per year of any combination of HAPs, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). This source was constructed prior to July 27, 1997. Additionally, this source modification has the potential to emit greater than ten (10) and twenty-five (25) tons per year of single HAP and combined HAPs, respectfully, however it is a source modification that does not include any new construction, nor does it meet the definition of reconstructed, as defined in 40 CFR 63.41. Therefore, the requirements under 40 CFR 63.43 and 326 IAC 2-4.1-1, (New Source Toxics Control), do not apply.

326 IAC 8-1-6 (New facilities; general reduction requirements)

The coating of non-wood material at this recreation vehicle manufacturing facility is subject to the provisions of 326 IAC 8-1-6 since it was constructed after January 1, 1980, and has potential VOC emissions greater than 25 tons per year and is not subject to any other article 8 rules. Pursuant to the rule requirements, GBMD has submitted a BACT analysis as part of this permit application. The options considered in the BACT analysis for the control of volatile organic compounds are as follows:

(1) Condensation
(2) Adsorption
(3) Liquid Absorption
(4) Flares
(e) Catalytic oxidation
(f) Thermal oxidation

Options (1), (3), (4) and (5) have been determined to be technically infeasible for the following reasons:

(1) Condensation

Condensation is a basic separation technique in which a gas stream containing VOCs is first brought to saturation and then the VOCs are condensed to a liquid. The conversion of a vapor phase VOC to its liquid phase can be accomplished by lowering the gas stream temperature and/or by increasing its pressure. Condensation systems are only effective for gas streams containing high concentrations of high molecular weight VOCs. The exhaust streams at GBMD, Inc. contain very low concentrations of relatively low molecular weight VOCs which will condense only at extremely low temperatures. Therefore, condensation is not a technically feasible option.

(3) Liquid Absorption

Absorption generally refers to the contact of a mixture of gases with a liquid sorbate (typically aqueous) so that a part of one or more of the constituents in the gas stream will dissolve in the liquid. The key criteria is the requirement that the gas constituents are soluble in an aqueous sorbate, typically water. At GBMD, Inc., at least half of the VOCs are not soluble in water, therefore gas absorption is not a technically feasible control option.

(4) Flares

A flare is a direct combustion device in which air and the combustible gases in the exhaust stream react at the burner. The principle factors affecting flare combustion efficiency are exhaust gas heating value, flammability limits, density and effectiveness of flame zone mixing. If the concentration of VOCs in the exhaust is at or above the lower flammability level, then utilization of a flare may be appropriate. Since the expected exhaust stream VOC concentrations at GBMD, Inc. will be very low (roughly 10 ppmv), flares are not a technically feasible option.

(5) Catalytic Oxidation

Catalytic oxidation employs a catalyst bed that initiates oxidation reactions at relatively low temperatures. The exhaust stream is heated to approximately 600^{o}F and passed through the catalyst bed where the oxidation reactions are initiated without alteration of the catalyst itself. The build up of non-combustible particles, polymerized materials, or reaction of the catalyst with certain elements can either “mask” or “poison” the catalyst, thus making it unavailable for initiating oxidation reactions.

The variability and unpredictability of the paint pigments utilized by GBMD, Inc. create a strong likelihood that compounds may be used which could render a catalytic control device ineffective. It would be difficult to impossible to design a catalytic oxidation system to preclude the possibility of the catalyst being masked or poisoned. Further, given the low concentrations of VOCs in the exhaust streams, the temperature rise across the catalyst bed would be so low that a poisoned or masked catalyst would likely go undetected. Therefore, the performance of the catalytic oxidation system could not be effectively ascertained. As a result of the potential for catalyst masking and poisoning, as well as the inability to monitor the control device performance, catalytic oxidation is not a technically feasible control option.

The three control options that were determined to be technically feasible are Recuperative

Thermal Oxidizer, Regenerative Thermal Oxidizer, and Carbon Adsorption Concentrator with Thermal Oxidation Control. A cost analysis for the add-on VOC control options was performed to determine the economic feasibility of these options. The cost analysis is based on potential VOC emissions of 150.0 tons per year:

Tables (a) through (c) below show the results of the cost analysis.

(a)

Capital Cost

Option	Base Price	Direct Cost[1]	Indirect Cost	Total
Recuperative Thermal Oxidation	$2,893,715.00	$3,761,829.00	$897,052.00	$4,658,881.00
Regenerative Thermal Oxidation[2]	--	--	--	$8,205,909.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$3,283,421.00	$4,268,447.00	$1,017,860.00	$5,286,307.00

[1] Includes the Purchased Equipment Cost (Base Price)
[2] These costs are reflected in the total capital cost for the Regenerative Thermal Oxidizer

(b)

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Capital Recovery Cost	Total
Recuperative Thermal Oxidation	$7,017,254.00	$295,170.00	$465,888.00	$7,778,312.00
Regenerative Thermal Oxidation	$1,668,935.00	$350,307.00	$820,591.00	$2,839,833.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$824,662.00	$301,590.00	$528,630.00	$1,654,883.00

(c)

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)	Control Efficiency (%)	$/ton Removed
Recuperative Thermal Oxidation	150	135	90	$57,617.00
Regenerative Thermal Oxidation	150	135	90	$21,036.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	150	135	90	$12,158.00

Methodology:
Emissions removed = (limited potential emissions from) * (control efficiency)
$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

(a) Capital Cost

(1) Base price: purchase price, auxiliary equipment, instruments, controls, taxes and freight.

(2) Direct installation cost: foundations/supports, erection/handling, electrical, piping, insulation, painting, site preparation and building/facility.

(3) Indirect installation cost: engineering, supervision, construction/filed expenses, construction fee, start up, performance test, model study and contingencies.

(b) Annual Cost

(1) Direct operating cost: operating labor (operator, supervisor), labor and material maintenance, operating materials, utilities (electricity, gas).

(2) Indirect operating cost: overhead, property tax, insurance, administration and capital recovery cost (for 10 years life of the system at 10.0% interest rate).

The add-on control options evaluated above have been determined to be economically infeasible. A search conducted on the RACT/BACT/LAER Clearinghouse did not show any process category for surface coating in the recreational vehicle manufacturing industry. A search was also conducted in the “other surface coating” process category, however the facilities or processes were not directly applicable to the recreational vehicle manufacturing and coating operations at GBMD, Inc. Subsequently, the BACT has been determined to be no add-on VOC emissions control with the following limitations and work practices:

(1) The total VOC input from the application of paints, sealants, and adhesives at the GBMD, Inc. plant, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(2) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(3) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(4) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(5) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(6) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(7) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control.

(7) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air.

(8) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures.

(9) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed.

(10) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized.

(11) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use.

(12) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency.

(13) Coatings that contain the lowest levels of VOC possible will be used. The exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)

The metal surface coating operations in EU2 and EU4 are exempt from the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) because the amount of vehicles being coated is limited to less than 35 vehicles per day.

326 IAC 8-2-12 (Wood furniture and cabinet coating)

Pursuant to 326 IAC 8-2-12 wood furniture or cabinet coating operations shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc application system, heated airless spray application system, roller coat, brush or wipe application system or dip-and-drain application system. The hand applied wood coating application methods in EU4 comply with this rule.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(1) The paint spray booth, identified as EU2, using dry filters for PM control, and exhausting to stacks E1, E2 and E3, has applicable compliance monitoring conditions as specified below:

(a) Daily inspections shall be performed to verify the placement, integrity and

particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks E1, E2 and E3 while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dry filters for the surface coating processes must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations (Appendix A page 2 of 2).

Proposed Permit Changes

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM)**.** The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary van and truck conversion source.

Responsible Official:	~~Norb Hess~~ **Fred Emmert**
Source Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Phone Number:	**(219) 262-3474**
SIC Code:	3716
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) surface coating paint booth, ~~known~~ **identified** as EU2, ~~equipped with air atomization spray applicators~~, **with a maximum capacity of three (3) vans or trucks per hour, using dry filters as particulate matter (PM) overspray control**, ~~equipped with dry filter for overspray control,~~ **and** exhausting through stacks E1, E2 and E3; ~~capacity: 3 vans or trucks per hour.~~

(b) Two (2) assembly areas, ~~known~~ **identified** as EU4, **with a total maximum** capacity **of three** (3) vans or trucks per hour;

~~(c) Two (2) woodworking areas, known as EU3, equipped with two (2) cyclone dust collectors, exhausting through stack D1 and D2.~~

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.

~~This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).~~

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

Note: The D Sections have been revised in their entirety. Former D.1 and D.2 Sections have been combined into new a D.1 Section and former D.3 Section is now D.2 (insignificant woodworking activities).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(b) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters for overspray control and exhausting at three (3) stacks, identified as E1, E2 and E3; and
(c) Two (2) assembly areas, identified as EU4, with a maximum capacity of three (3) vans or trucks per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(b) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(c) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(d) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(e) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(f) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(g) The following pollution prevention techniques shall be adhered to:

(1) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control;

(2) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air;

(3) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures;

(4) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed;

(5) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

(6) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use;

(7) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

(8) Coatings will be used that contain the lowest levels of VOC possible. The use of exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Vehicle Limitation [326 IAC 8-2-9]

The number of vehicles coated shall be limited to thirty-four (34) vehicles per day and any change or modification which increases the number of vehicles coated per day to thirty-five (35) or greater shall require IDEM, OAMs prior approval before any such change may occur. Therefore, 326 IAC 8-2-9 does not apply.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to CP-039-4365-00312, issued on May 31, 1995, and pursuant to 326 IAC 6-3-2, the PM from the one (1) paint booth (EU2), and the two (2) assembly areas (EU4), shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ **where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour**

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period).

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2, the dry filters for PM control shall be in operation at all times when the one (1) paint booth (EU2) is in operation.

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.9 and D.1.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.3, the Permittee shall maintain a record of the number of vehicles coated per day.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1(a) and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 2.11 pounds per hour when operating at a process weight rate of 740 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Conclusion

The operation of this recreational vehicle manufacturing facility shall be subject to the conditions of the attached proposed Significant Source Modification No. 039-12046-00312.

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 16, 2000. Additional information was received on July 19, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 - 2).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the Potential to Emit before controls for the modification. Control Equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM-10	less than 100
PM	less than 100
SO_2	less than 100
VOC	greater than 100, less than 250
CO	less than 100
NO_x	less than 100

HAP's	Potential To Emit (tons/year)
Toluene	greater than 10
Xylene	greater than 10
Hexane	greater than 10
MIBK	greater than 10
Ethyl Benzene	less than 10
MDI	less than 10
MEK	less than 10
TOTAL	greater than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of particulate matter (PM), particulate matter with an aerodynamic diameter at or below 10 microns (PM-10), and volatile organic compounds (VOC) are equal to or greater than 25 tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single hazardous air pollutant (HAP) is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit application was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Justification for Modification

The Title V permit is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(2) because the source has the potential to emit VOC greater than 25 tons per year.

Additionally, the source submitted records indicating that the two (2) cyclone dust collectors for the woodworking areas have been replaced with two (2) baghouses with a design grain loading of 0.03 grains per actual cubic foot and a gas flow rate of 4,000 actual cubic feet per minute, making the woodworking areas insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone.

Potential to Emit After Controls for the Modification

The table below summarizes the potential to emit, reflecting all limits, of the modification after controls. The control equipment for the modification is considered federally enforceable only after issuance of the Part 70 permit modification.

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)	Single HAP	Total HAPs
Proposed Modification	9.30	9.30	--	150.00	--	--	33.22	101.70
PSD Significant Levels	250	250	250	250	250	250	N/A	N/A
Note: This source will be able to keep its PSD Minor status.								

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) This source is not subject to the National Emission Standards for Hazardous Air Pollutants, from Wood Furniture Manufacturing Operations, 326 IAC 14, (40 CFR 60.800, Subpart JJ). IDEM determined in the TSD Addendum for Part 70 Permit T039-6921-00312, issued December 31, 1998, that the installation of wood cabinets does not constitute a manufacturer of wood furniture or wood furniture component.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of volatile organic compounds in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

(a) Pursuant to 326 IAC 6-3-2 the particulate matter (PM) from the two (2) woodworking areas shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10(0.37^{0.67}) = 2.11$ lb/hr

Based on the above equation, particulate matter emissions from the two (2) baghouses shall be limited to 2.11 lb/hr.

The two (2) baghouses shall be in operation at all times the two (2) woodworking facilities are in operation, in order to comply with this limit.

(b) The particulate matter (PM) from the paint spray booth shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The dry filters shall be in operation at all times the paint spray booth is in operation, in order to comply with this limit.

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the potential to emit (PTE) ten (10) tons per year of any HAP or twenty-five (25) tons per year of any combination of HAPs, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). This source was constructed prior to July 27, 1997. Additionally, this source modification has the potential to emit greater than ten (10) and twenty-five (25) tons per year of single HAP and combined HAPs, respectfully, however it is a source modification that does not include any new construction, nor does it meet the definition of reconstructed, as defined in 40 CFR 63.41. Therefore, the requirements under 40 CFR 63.43 and 326 IAC 2-4.1-1, (New Source Toxics Control), do not apply.

326 IAC 8-1-6 (New facilities; general reduction requirements)

The coating of non-wood material at this recreation vehicle manufacturing facility is subject to the provisions of 326 IAC 8-1-6 since it was constructed after January 1, 1980, and has potential VOC emissions greater than 25 tons per year and is not subject to any other article 8 rules. Pursuant to the rule requirements, GBMD has submitted a BACT analysis as part of this permit application. The options considered in the BACT analysis for the control of volatile organic compounds are as follows:

(1) Condensation
(2) Adsorption
(3) Liquid Absorption
(4) Flares
(e) Catalytic oxidation
(f) Thermal oxidation

Options (1), (3), (4) and (5) have been determined to be technically infeasible for the following reasons:

(1) Condensation

Condensation is a basic separation technique in which a gas stream containing VOCs is first brought to saturation and then the VOCs are condensed to a liquid. The conversion of a vapor phase VOC to its liquid phase can be accomplished by lowering the gas stream temperature and/or by increasing its pressure. Condensation systems are only effective for gas streams containing high concentrations of high molecular weight VOCs. The exhaust streams at GBMD, Inc. contain very low concentrations of relatively low molecular weight VOCs which will condense only at extremely low temperatures. Therefore, condensation is not a technically feasible option.

(3) Liquid Absorption

Absorption generally refers to the contact of a mixture of gases with a liquid sorbate (typically aqueous) so that a part of one or more of the constituents in the gas stream will dissolve in the liquid. The key criteria is the requirement that the gas constituents are soluble in an aqueous sorbate, typically water. At GBMD, Inc., at least half of the VOCs are not soluble in water, therefore gas absorption is not a technically feasible control option.

(4) Flares

A flare is a direct combustion device in which air and the combustible gases in the exhaust stream react at the burner. The principle factors affecting flare combustion efficiency are exhaust gas heating value, flammability limits, density and effectiveness of flame zone mixing. If the concentration of VOCs in the exhaust is at or above the lower flammability level, then utilization of a flare may be appropriate. Since the expected exhaust stream VOC concentrations at GBMD, Inc. will be very low (roughly 10 ppmv), flares are not a technically feasible option.

(5) Catalytic Oxidation

Catalytic oxidation employs a catalyst bed that initiates oxidation reactions at relatively low temperatures. The exhaust stream is heated to approximately 600^{o}F and passed through the catalyst bed where the oxidation reactions are initiated without alteration of the catalyst itself. The build up of non-combustible particles, polymerized materials, or reaction of the catalyst with certain elements can either “mask” or “poison” the catalyst, thus making it unavailable for initiating oxidation reactions.

The variability and unpredictability of the paint pigments utilized by GBMD, Inc. create a strong likelihood that compounds may be used which could render a catalytic control device ineffective. It would be difficult to impossible to design a catalytic oxidation system to preclude the possibility of the catalyst being masked or poisoned. Further, given the low concentrations of VOCs in the exhaust streams, the temperature rise across the catalyst bed would be so low that a poisoned or masked catalyst would likely go undetected. Therefore, the performance of the catalytic oxidation system could not be effectively ascertained. As a result of the potential for catalyst masking and poisoning, as well as the inability to monitor the control device performance, catalytic oxidation is not a technically feasible control option.

The three control options that were determined to be technically feasible are Recuperative

Thermal Oxidizer, Regenerative Thermal Oxidizer, and Carbon Adsorption Concentrator with Thermal Oxidation Control. A cost analysis for the add-on VOC control options was performed to determine the economic feasibility of these options. The cost analysis is based on potential VOC emissions of 150.0 tons per year:

Tables (a) through (c) below show the results of the cost analysis.

(a)

Capital Cost

Option	Base Price	Direct Cost[1]	Indirect Cost	Total
Recuperative Thermal Oxidation	$2,893,715.00	$3,761,829.00	$897,052.00	$4,658,881.00
Regenerative Thermal Oxidation[2]	--	--	--	$8,205,909.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$3,283,421.00	$4,268,447.00	$1,017,860.00	$5,286,307.00

[1] Includes the Purchased Equipment Cost (Base Price)
[2] These costs are reflected in the total capital cost for the Regenerative Thermal Oxidizer

(b)

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Capital Recovery Cost	Total
Recuperative Thermal Oxidation	$7,017,254.00	$295,170.00	$465,888.00	$7,778,312.00
Regenerative Thermal Oxidation	$1,668,935.00	$350,307.00	$820,591.00	$2,839,833.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$824,662.00	$301,590.00	$528,630.00	$1,654,883.00

(c)

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)	Control Efficiency (%)	$/ton Removed
Recuperative Thermal Oxidation	150	135	90	$57,617.00
Regenerative Thermal Oxidation	150	135	90	$21,036.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	150	135	90	$12,158.00

Methodology:
Emissions removed = (limited potential emissions from) * (control efficiency)
$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

(a) Capital Cost

(1) Base price: purchase price, auxiliary equipment, instruments, controls, taxes and freight.

(2) Direct installation cost: foundations/supports, erection/handling, electrical, piping, insulation, painting, site preparation and building/facility.

(3) Indirect installation cost: engineering, supervision, construction/filed expenses, construction fee, start up, performance test, model study and contingencies.

(b) Annual Cost

(1) Direct operating cost: operating labor (operator, supervisor), labor and material maintenance, operating materials, utilities (electricity, gas).

(2) Indirect operating cost: overhead, property tax, insurance, administration and capital recovery cost (for 10 years life of the system at 10.0% interest rate).

The add-on control options evaluated above have been determined to be economically infeasible. A search conducted on the RACT/BACT/LAER Clearinghouse did not show any process category for surface coating in the recreational vehicle manufacturing industry. A search was also conducted in the “other surface coating” process category, however the facilities or processes were not directly applicable to the recreational vehicle manufacturing and coating operations at GBMD, Inc. Subsequently, the BACT has been determined to be no add-on VOC emissions control with the following limitations and work practices:

(1) The total VOC input from the application of paints, sealants, and adhesives at the GBMD, Inc. plant, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(2) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(3) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(4) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(5) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(6) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(7) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control.

(7) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air.

(8) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures.

(9) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed.

(10) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized.

(11) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use.

(12) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency.

(13) Coatings that contain the lowest levels of VOC possible will be used. The exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)

The metal surface coating operations in EU2 and EU4 are exempt from the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) because the amount of vehicles being coated is limited to less than 35 vehicles per day.

326 IAC 8-2-12 (Wood furniture and cabinet coating)

Pursuant to 326 IAC 8-2-12 wood furniture or cabinet coating operations shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc application system, heated airless spray application system, roller coat, brush or wipe application system or dip-and-drain application system. The hand applied wood coating application methods in EU4 comply with this rule.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(1) The paint spray booth, identified as EU2, using dry filters for PM control, and exhausting to stacks E1, E2 and E3, has applicable compliance monitoring conditions as specified below:

(a) Daily inspections shall be performed to verify the placement, integrity and

particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks E1, E2 and E3 while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dry filters for the surface coating processes must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations (Appendix A page 2 of 2).

Proposed Permit Changes

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM)**.** The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary van and truck conversion source.

Responsible Official:	~~Norb Hess~~ **Fred Emmert**
Source Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Phone Number:	**(219) 262-3474**
SIC Code:	3716
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) surface coating paint booth, ~~known~~ **identified** as EU2, ~~equipped with air atomization spray applicators~~, **with a maximum capacity of three (3) vans or trucks per hour, using dry filters as particulate matter (PM) overspray control**, ~~equipped with dry filter for overspray control,~~ **and** exhausting through stacks E1, E2 and E3; ~~capacity: 3 vans or trucks per hour.~~

(b) Two (2) assembly areas, ~~known~~ **identified** as EU4, **with a total maximum** capacity **of three** (3) vans or trucks per hour;

~~(c) Two (2) woodworking areas, known as EU3, equipped with two (2) cyclone dust collectors, exhausting through stack D1 and D2.~~

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.

~~This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).~~

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

Note: The D Sections have been revised in their entirety. Former D.1 and D.2 Sections have been combined into new a D.1 Section and former D.3 Section is now D.2 (insignificant woodworking activities).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(b) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters for overspray control and exhausting at three (3) stacks, identified as E1, E2 and E3; and
(c) Two (2) assembly areas, identified as EU4, with a maximum capacity of three (3) vans or trucks per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(b) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(c) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(d) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(e) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(f) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(g) The following pollution prevention techniques shall be adhered to:

(1) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control;

(2) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air;

(3) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures;

(4) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed;

(5) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

(6) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use;

(7) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

(8) Coatings will be used that contain the lowest levels of VOC possible. The use of exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Vehicle Limitation [326 IAC 8-2-9]

The number of vehicles coated shall be limited to thirty-four (34) vehicles per day and any change or modification which increases the number of vehicles coated per day to thirty-five (35) or greater shall require IDEM, OAMs prior approval before any such change may occur. Therefore, 326 IAC 8-2-9 does not apply.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to CP-039-4365-00312, issued on May 31, 1995, and pursuant to 326 IAC 6-3-2, the PM from the one (1) paint booth (EU2), and the two (2) assembly areas (EU4), shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ **where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour**

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period).

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2, the dry filters for PM control shall be in operation at all times when the one (1) paint booth (EU2) is in operation.

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.9 and D.1.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.3, the Permittee shall maintain a record of the number of vehicles coated per day.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1(a) and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 2.11 pounds per hour when operating at a process weight rate of 740 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Conclusion

The operation of this recreational vehicle manufacturing facility shall be subject to the conditions of the attached proposed Significant Source Modification No. 039-12046-00312.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Significant Source Modification to a Part 70 Operating Permit

Source Background and Description

Source Name:	**GBMD, Inc. (formerly Coachmen Automotive)**
Source Location:	**1520 Mishawaka Street, Elkhart, Indiana 46515**
County:	**Elkhart**
SIC Code:	**3716**
Operation Permit No.:	**T 039-6921-00312**
Operation Permit Issuance Date:	**December 31, 1998**
Source Modification No.:	**SSM 039-12046-00312**
Permit Reviewer:	**LQ/EVP**

The Office of Air Management (OAM) has reviewed a modification application from GBMD, Inc. relating to the operation of a truck and van conversion source.

History

On March 16, 2000, GBMD, Inc. submitted an application to the OAM requesting to revise the current VOC emission limit of 48 tons per year to 150 tons per year. Additionally, on March 18, 2000, GBMD, Inc. submitted a letter stating that Coachmen Automotive had sold its operations and agreed to assign its permits to GBMD, Inc. GBMD, Inc. was issued a Part 70 permit on December 31, 1998.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of 3 vans or trucks per hour, using dry filters as particulate matter (PM) overspray control, and exhausting to stacks E1, E2 and E3;

(b) Two (2) assembly areas, identified as EU4, with a total maximum capacity of 3 vans or trucks per hour;

Note: The two (2) woodworking areas, identified as EU3, that were previously controlled by scrubbers, are now each controlled by one (1) baghouse and are considered insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source was issued a Part 70 Operating Permit T039-6921-00312 on December 31, 1998.

Recommendation

The staff recommends to the Commissioner that the Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 16, 2000. Additional information was received on July 19, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 - 2).

Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

This table reflects the Potential to Emit before controls for the modification. Control Equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM-10	less than 100
PM	less than 100
SO_2	less than 100
VOC	greater than 100, less than 250
CO	less than 100
NO_x	less than 100

HAP's	Potential To Emit (tons/year)
Toluene	greater than 10
Xylene	greater than 10
Hexane	greater than 10
MIBK	greater than 10
Ethyl Benzene	less than 10
MDI	less than 10
MEK	less than 10
TOTAL	greater than 25

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of particulate matter (PM), particulate matter with an aerodynamic diameter at or below 10 microns (PM-10), and volatile organic compounds (VOC) are equal to or greater than 25 tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single hazardous air pollutant (HAP) is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is greater than or equal to twenty-five (25) tons per year. The source is subject to the provisions of 326 IAC 2-7, and a Part 70 permit application was issued on December 31, 1998. Therefore, the source is subject to the provisions of 326 IAC 2-7-10.5 for this significant source modification.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Justification for Modification

The Title V permit is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(2) because the source has the potential to emit VOC greater than 25 tons per year.

Additionally, the source submitted records indicating that the two (2) cyclone dust collectors for the woodworking areas have been replaced with two (2) baghouses with a design grain loading of 0.03 grains per actual cubic foot and a gas flow rate of 4,000 actual cubic feet per minute, making the woodworking areas insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone.

Potential to Emit After Controls for the Modification

The table below summarizes the potential to emit, reflecting all limits, of the modification after controls. The control equipment for the modification is considered federally enforceable only after issuance of the Part 70 permit modification.

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)	Single HAP	Total HAPs
Proposed Modification	9.30	9.30	--	150.00	--	--	33.22	101.70
PSD Significant Levels	250	250	250	250	250	250	N/A	N/A
Note: This source will be able to keep its PSD Minor status.								

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) This source is not subject to the National Emission Standards for Hazardous Air Pollutants, from Wood Furniture Manufacturing Operations, 326 IAC 14, (40 CFR 60.800, Subpart JJ). IDEM determined in the TSD Addendum for Part 70 Permit T039-6921-00312, issued December 31, 1998, that the installation of wood cabinets does not constitute a manufacturer of wood furniture or wood furniture component.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of volatile organic compounds in Elkhart County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

(a) Pursuant to 326 IAC 6-3-2 the particulate matter (PM) from the two (2) woodworking areas shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = 4.10(0.37^{0.67}) = 2.11$ lb/hr

Based on the above equation, particulate matter emissions from the two (2) baghouses shall be limited to 2.11 lb/hr.

The two (2) baghouses shall be in operation at all times the two (2) woodworking facilities are in operation, in order to comply with this limit.

(b) The particulate matter (PM) from the paint spray booth shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The dry filters shall be in operation at all times the paint spray booth is in operation, in order to comply with this limit.

326 IAC 2-4.1-1 (New Source Toxics Control)

Pursuant to 326 IAC 2-4.1-1 (New Source Toxics Control), any new process or production unit, which in and of itself emits or has the potential to emit (PTE) ten (10) tons per year of any HAP or twenty-five (25) tons per year of any combination of HAPs, must be controlled using technologies consistent with Maximum Achievable Control Technology (MACT). This source was constructed prior to July 27, 1997. Additionally, this source modification has the potential to emit greater than ten (10) and twenty-five (25) tons per year of single HAP and combined HAPs, respectfully, however it is a source modification that does not include any new construction, nor does it meet the definition of reconstructed, as defined in 40 CFR 63.41. Therefore, the requirements under 40 CFR 63.43 and 326 IAC 2-4.1-1, (New Source Toxics Control), do not apply.

326 IAC 8-1-6 (New facilities; general reduction requirements)

The coating of non-wood material at this recreation vehicle manufacturing facility is subject to the provisions of 326 IAC 8-1-6 since it was constructed after January 1, 1980, and has potential VOC emissions greater than 25 tons per year and is not subject to any other article 8 rules. Pursuant to the rule requirements, GBMD has submitted a BACT analysis as part of this permit application. The options considered in the BACT analysis for the control of volatile organic compounds are as follows:

(1) Condensation
(2) Adsorption
(3) Liquid Absorption
(4) Flares
(e) Catalytic oxidation
(f) Thermal oxidation

Options (1), (3), (4) and (5) have been determined to be technically infeasible for the following reasons:

(1) Condensation

Condensation is a basic separation technique in which a gas stream containing VOCs is first brought to saturation and then the VOCs are condensed to a liquid. The conversion of a vapor phase VOC to its liquid phase can be accomplished by lowering the gas stream temperature and/or by increasing its pressure. Condensation systems are only effective for gas streams containing high concentrations of high molecular weight VOCs. The exhaust streams at GBMD, Inc. contain very low concentrations of relatively low molecular weight VOCs which will condense only at extremely low temperatures. Therefore, condensation is not a technically feasible option.

(3) Liquid Absorption

Absorption generally refers to the contact of a mixture of gases with a liquid sorbate (typically aqueous) so that a part of one or more of the constituents in the gas stream will dissolve in the liquid. The key criteria is the requirement that the gas constituents are soluble in an aqueous sorbate, typically water. At GBMD, Inc., at least half of the VOCs are not soluble in water, therefore gas absorption is not a technically feasible control option.

(4) Flares

A flare is a direct combustion device in which air and the combustible gases in the exhaust stream react at the burner. The principle factors affecting flare combustion efficiency are exhaust gas heating value, flammability limits, density and effectiveness of flame zone mixing. If the concentration of VOCs in the exhaust is at or above the lower flammability level, then utilization of a flare may be appropriate. Since the expected exhaust stream VOC concentrations at GBMD, Inc. will be very low (roughly 10 ppmv), flares are not a technically feasible option.

(5) Catalytic Oxidation

Catalytic oxidation employs a catalyst bed that initiates oxidation reactions at relatively low temperatures. The exhaust stream is heated to approximately 600^{o}F and passed through the catalyst bed where the oxidation reactions are initiated without alteration of the catalyst itself. The build up of non-combustible particles, polymerized materials, or reaction of the catalyst with certain elements can either “mask” or “poison” the catalyst, thus making it unavailable for initiating oxidation reactions.

The variability and unpredictability of the paint pigments utilized by GBMD, Inc. create a strong likelihood that compounds may be used which could render a catalytic control device ineffective. It would be difficult to impossible to design a catalytic oxidation system to preclude the possibility of the catalyst being masked or poisoned. Further, given the low concentrations of VOCs in the exhaust streams, the temperature rise across the catalyst bed would be so low that a poisoned or masked catalyst would likely go undetected. Therefore, the performance of the catalytic oxidation system could not be effectively ascertained. As a result of the potential for catalyst masking and poisoning, as well as the inability to monitor the control device performance, catalytic oxidation is not a technically feasible control option.

The three control options that were determined to be technically feasible are Recuperative

Thermal Oxidizer, Regenerative Thermal Oxidizer, and Carbon Adsorption Concentrator with Thermal Oxidation Control. A cost analysis for the add-on VOC control options was performed to determine the economic feasibility of these options. The cost analysis is based on potential VOC emissions of 150.0 tons per year:

Tables (a) through (c) below show the results of the cost analysis.

(a)

Capital Cost

Option	Base Price	Direct Cost[1]	Indirect Cost	Total
Recuperative Thermal Oxidation	$2,893,715.00	$3,761,829.00	$897,052.00	$4,658,881.00
Regenerative Thermal Oxidation[2]	--	--	--	$8,205,909.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$3,283,421.00	$4,268,447.00	$1,017,860.00	$5,286,307.00

[1] Includes the Purchased Equipment Cost (Base Price)
[2] These costs are reflected in the total capital cost for the Regenerative Thermal Oxidizer

(b)

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Capital Recovery Cost	Total
Recuperative Thermal Oxidation	$7,017,254.00	$295,170.00	$465,888.00	$7,778,312.00
Regenerative Thermal Oxidation	$1,668,935.00	$350,307.00	$820,591.00	$2,839,833.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	$824,662.00	$301,590.00	$528,630.00	$1,654,883.00

(c)

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)	Control Efficiency (%)	$/ton Removed
Recuperative Thermal Oxidation	150	135	90	$57,617.00
Regenerative Thermal Oxidation	150	135	90	$21,036.00
Carbon Adsorption Concentrator with Recuperative Thermal Oxidation	150	135	90	$12,158.00

Methodology:
Emissions removed = (limited potential emissions from) * (control efficiency)
$/ton removed = total annual cost / emissions removed

The cost breakdown is as follows:

(a) Capital Cost

(1) Base price: purchase price, auxiliary equipment, instruments, controls, taxes and freight.

(2) Direct installation cost: foundations/supports, erection/handling, electrical, piping, insulation, painting, site preparation and building/facility.

(3) Indirect installation cost: engineering, supervision, construction/filed expenses, construction fee, start up, performance test, model study and contingencies.

(b) Annual Cost

(1) Direct operating cost: operating labor (operator, supervisor), labor and material maintenance, operating materials, utilities (electricity, gas).

(2) Indirect operating cost: overhead, property tax, insurance, administration and capital recovery cost (for 10 years life of the system at 10.0% interest rate).

The add-on control options evaluated above have been determined to be economically infeasible. A search conducted on the RACT/BACT/LAER Clearinghouse did not show any process category for surface coating in the recreational vehicle manufacturing industry. A search was also conducted in the “other surface coating” process category, however the facilities or processes were not directly applicable to the recreational vehicle manufacturing and coating operations at GBMD, Inc. Subsequently, the BACT has been determined to be no add-on VOC emissions control with the following limitations and work practices:

(1) The total VOC input from the application of paints, sealants, and adhesives at the GBMD, Inc. plant, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(2) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(3) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(4) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(5) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(6) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(7) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control.

(7) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air.

(8) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures.

(9) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed.

(10) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized.

(11) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use.

(12) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency.

(13) Coatings that contain the lowest levels of VOC possible will be used. The exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)

The metal surface coating operations in EU2 and EU4 are exempt from the requirements of 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations) because the amount of vehicles being coated is limited to less than 35 vehicles per day.

326 IAC 8-2-12 (Wood furniture and cabinet coating)

Pursuant to 326 IAC 8-2-12 wood furniture or cabinet coating operations shall apply all coating material, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the following application systems: airless spray application system, air-assisted airless spray application system, electrostatic spray application system, electrostatic bell or disc application system, heated airless spray application system, roller coat, brush or wipe application system or dip-and-drain application system. The hand applied wood coating application methods in EU4 comply with this rule.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

(1) The paint spray booth, identified as EU2, using dry filters for PM control, and exhausting to stacks E1, E2 and E3, has applicable compliance monitoring conditions as specified below:

(a) Daily inspections shall be performed to verify the placement, integrity and

particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks E1, E2 and E3 while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dry filters for the surface coating processes must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations (Appendix A page 2 of 2).

Proposed Permit Changes

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM)**.** The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary van and truck conversion source.

Responsible Official:	~~Norb Hess~~ **Fred Emmert**
Source Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address:	1520 Mishawaka Street, Elkhart, Indiana 46515
Phone Number:	**(219) 262-3474**
SIC Code:	3716
County Location:	Elkhart
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) surface coating paint booth, ~~known~~ **identified** as EU2, ~~equipped with air atomization spray applicators~~, **with a maximum capacity of three (3) vans or trucks per hour, using dry filters as particulate matter (PM) overspray control**, ~~equipped with dry filter for overspray control,~~ **and** exhausting through stacks E1, E2 and E3; ~~capacity: 3 vans or trucks per hour.~~

(b) Two (2) assembly areas, ~~known~~ **identified** as EU4, **with a total maximum** capacity **of three** (3) vans or trucks per hour;

~~(c) Two (2) woodworking areas, known as EU3, equipped with two (2) cyclone dust collectors, exhausting through stack D1 and D2.~~

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.

~~This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).~~

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

Note: The D Sections have been revised in their entirety. Former D.1 and D.2 Sections have been combined into new a D.1 Section and former D.3 Section is now D.2 (insignificant woodworking activities).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
(b) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of three (3) vans or trucks per hour, using dry filters for overspray control and exhausting at three (3) stacks, identified as E1, E2 and E3; and
(c) Two (2) assembly areas, identified as EU4, with a maximum capacity of three (3) vans or trucks per hour.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

(b) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;

(c) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water;

(d) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water

(e) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;

(f) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water;

(g) The following pollution prevention techniques shall be adhered to:

(1) All paints applied in the paint booth (EU2) shall be applied using high volume, low pressure (HVLP) or air assisted airless spray guns, or equivalent spray applicators at least as efficient, with dry filters for overspray control;

(2) The spray guns used in the paint booth (EU2) shall be the type that can be cleaned without the need for spraying the solvent into the air;

(3) The cleanup solvent containers used to transport solvent from drums to work areas will be closed containers having soft gasketed spring-loaded closures;

(4) Clean-up rags saturated with solvent will be stored, transported, and disposed of in containers that are tightly closed;

(5) All solvent sprayed during cleanup or color changes shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

(6) Storage containers used to store VOC and/or HAPs containing materials will be kept covered when not in use;

(7) The paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

(8) Coatings will be used that contain the lowest levels of VOC possible. The use of exempt solvents such as water, acetone and methyl acetate will be used to the extent possible.

D.1.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.3 Vehicle Limitation [326 IAC 8-2-9]

The number of vehicles coated shall be limited to thirty-four (34) vehicles per day and any change or modification which increases the number of vehicles coated per day to thirty-five (35) or greater shall require IDEM, OAMs prior approval before any such change may occur. Therefore, 326 IAC 8-2-9 does not apply.

D.1.4 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to CP-039-4365-00312, issued on May 31, 1995, and pursuant to 326 IAC 6-3-2, the PM from the one (1) paint booth (EU2), and the two (2) assembly areas (EU4), shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ **where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour**

D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.1.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 VOC Emissions

Compliance with Condition D.1.1 shall be demonstrated within 30 days of the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period).

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.9 Particulate Matter (PM)

Pursuant to 326 IAC 6-3-2, the dry filters for PM control shall be in operation at all times when the one (1) paint booth (EU2) is in operation.

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) while the booth is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.11 Record Keeping Requirements

(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.1.9 and D.1.10, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.3, the Permittee shall maintain a record of the number of vehicles coated per day.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1(a) and D.1.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:
Two (2) woodworking areas, identified as EU3, each with one (1) baghouse for particulate matter control.
(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 2.11 pounds per hour when operating at a process weight rate of 740 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Conclusion

The operation of this recreational vehicle manufacturing facility shall be subject to the conditions of the attached proposed Significant Source Modification No. 039-12046-00312.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for Significant Source Modification to a
Part 70 Operating Permit

Source Name:	**GBMD, Inc.**
Source Location:	**1520 Mishawaka Street, Elkhart, Indiana 46515**
SIC Code:	**3716**
County:	**Elkhart**
Operation Permit No.:	**T 039-6921-00312**
Operation Permit Issuance Date:	**December 31, 1998**
Source Modification No.:	**SSM 039-12046-00312**
Permit Reviewer:	**Linda Quigley/EVP**

On August 16, 2000, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Elkhart, Indiana stating that GBMD, Inc. had applied for a Significant Source Modification to a Part 70 Operating Permit for the volatile organic compounds (VOC) emission limit of forty-eight (48) tons per year to be revised to one hundred and fifty (150) tons per year. The notice also stated that OAM proposed to issue a Significant Source Modification (SSM) for this operation and provided information on how the public could review the proposed SSM and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this SSM should be issued as proposed.

On September 15, 2000, Dell Engineering, Inc. submitted comments, on behalf of GBMD, Inc. The summary of the comments and corresponding responses is as follows (bolded language has been added, the language with a line through it has been deleted):

Comment #1

Under the Permitted Emission Units and Pollution Control Equipment section of the Technical Support Document, it is indicated that only one baghouse is employed at the source. In fact, there are two separate identical baghouse filters that control the two separate woodworking areas. Therefore, under the "Note", please change the statement, "are now each controlled by one (1) baghouse" to the statement, "are now controlled by two separate baghouse filter units." We believe this statement provides a more accurate description of the control units at the source.

Response #1

The following revisions have been made to the Technical Support Document under the Permitted Emission Units and Pollution Control Equipment section (**bolded** language has been added, the language with a ~~line~~ through it has been deleted). The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) surface coating paint booth, identified as EU2, with a maximum capacity of 3 vans or trucks per hour, using dry filters as particulate matter (PM) overspray control, and exhausting to stacks E1, E2 and E3;

(b) Two (2) assembly areas, identified as EU4, with a total maximum capacity of 3 vans or trucks per hour;

Note: The two (2) woodworking areas, identified as EU3, that were previously controlled by scrubbers, are now ***controlled by two (2) separate baghouse filter units*** ~~*each controlled by one (1) baghouse*~~ *and are considered insignificant activities as defined in 326 IAC 2-7-1(21)(G)(xxiii).*

Comment #2

Condition D.1.1 Volatile Organic Compounds (VOC)

The materials limitations shown under this condition should be consolidated into three categories (Paints, Sealers and Cleaning Solvents). Also, the VOC limits for these categories should be adjusted to reflect current maximum values.

The Materials Usage Table (page 32A) in the Significant Source Modification permit application indicated five material categories for convenience. However, there is no clear definition for these categories. For example, the adhesives and caulks are considered sealers. Therefore, for clarity of compliance demonstration as well as streamlining of recordkeeping, we request that all of the materials be consolidated under three categories: Paint, Sealers and Cleaning Solvents.

Also, the VOC content limits in the proposed permit reflect the <u>typical</u> VOC contents shown in the Materials Usage Table (page 32A) of the Significant Source Modification permit application. However, the maximum VOC contents for these materials are higher. Therefore, we request that the VOC content limits be revised to reflect current maximum values. Material Safety Data Sheets (MSDSs) for the worst case materials in the two categories to be revised (Paints and Cleaning Solvents) are included as Attachment A.

To effect these changes, we request that paragraphs (b), (d), (e) and (f) of Condition D.1.1 be modified as follows:

(b) Adhesives are a subcategory of sealers, and should be consolidated into that category. Therefore, please delete this provision in its entirety.

(d) Please change, “6.1 pounds per gallon less water” to, “9.15 pounds per gallon less water.” Material Safety Data Sheet is included herein.

(e) Caulks are a subcategory of sealers, and should be consolidated into that category. Therefore, please delete this provision in its entirety.

(f) Please change, “6.8 pounds per gallon less water” to, “7.58 pounds per gallon less water.” Material Safety Data Sheet is included herein.

Response #2

The material limitation categories will be consolidated to Paints, Sealers and Cleaning Solvents as requested. Pursuant to the requirements of 326 IAC 8-1-6, the total VOC input from coating and solvent usage shall be limited to 150 tons per twelve (12) consecutive month period. The VOC content limitations were established based on information provided by the Permittee and are intended as acceptable ceiling values as the Permittee continue to put efforts in using lower VOC content coatings, as required by the BACT determination. Since some of the coatings the source currently uses are higher than the limitations allowed in the proposed permit, the VOC content limitations are revised such that the source can demonstrate the compliance based on 30-day weighted average VOC content. This wil allow the source to occasionally use higher VOC content materials and still maintain in compliance with the BACT requirements. The following changes have been made to Condition D.1.1:

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities):

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve consecutive month period.

~~(b) The VOC content of the adhesives applied shall not exceed 3.7 pounds per gallon less water;~~

~~(c)~~**(b)** The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water**, based on 30-day weighted average**;

~~(d)~~**(c)** The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water**, based on 30-day weighted average**;

~~(e) The VOC content of the caulks applied shall not exceed 0.2 pounds per gallon less water;~~

~~(f)~~**(d)** The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water**, based on 30-day weighted average**;

~~(g)~~**(e)** The following pollution prevention techniques shall be adhered to:

Condition D.1.11 (Record Keeping Requirements), paragraph (a) was also revised as follows:

(a) To document compliance with Condition**s** D.1.1(a) **through (d)**, the Permittee shall maintain records in accordance with (1) through (~~5~~**6**) below. Records maintained for (1) through (~~5~~**6**) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The 30-day weighted average VOC content for each type of coating materials;

(~~4~~**5**) The total VOC usage for each month; and

(~~5~~**6**) The weight of VOCs emitted for each compliance period.

Comment #3

Condition D.1.1(g)(5) Volatile Organic Compounds (VOC)

Solvent spray for cleanup or color changes apply only to EU2. Therefore, for purposes of specificity, please change the sentence, "All solvent sprayed during cleanup or color changes shall be directed into containers" to, "All solvent sprayed during cleanup or color changes in EU2 shall be directed into containers."

Response #3

Since no surface coating operation will take place in the assembly areas, EU4, the following change has been made to Condition D.1.1(g)(5):

(5) All solvent sprayed during cleanup or color changes **in EU2** shall be directed into containers. Such containers will be closed as soon as solvent spraying is complete and the waste solvent will be disposed of in such a manner that evaporation is minimized;

Comment #4

Condition D.1.1(g)(7) Volatile Organic Compounds (VOC)

For the same reason stated above in Comment 3, please change the phrase, "The paint application equipment" to "The EU2 paint application equipment."

Response #4

The following change has been made to Condition D.1.1(g)(7):

(7) The **EU2** paint application equipment operators will be instructed and trained on the methods and practices to minimize overspray and maximize transfer efficiency;

Comment #5

Condition D.1.10 Monitoring

GBMD requests that the paint booth (EU2) monitoring requirements apply only during periods when the paint booth is in operation. Therefore, please add a paragraph at the beginning of Condition D.1.10 as follows:

"Monitoring of the control systems and emissions from EU2 shall be required only during periods when EU2 is in operation. Therefore, the daily monitoring requirements shall apply each day EU2 is in operation, the weekly monitoring requirements shall apply for any week during which EU2 is in operation, and the monthly monitoring requirements shall apply for any month during which EU2 is in operation."

Response #5

The following changes have been made to Condition D.1.10 to indicate that the monitoring required for EU2 shall be performed at all times the equipment is operating:

D.1.10 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters **when EU2 is in operation**. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E1, E2, and E3) ~~while the booth~~ **for any week during which EU2** is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed, **for any month during which EU2 is in operation,** of the coating emissions from the stacks and the general ventilation exhausts, and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Comment # 6

Part 70 Quarterly Report Form

Please change the language for the indicated, "Limit" from, "less than 150 tons per twelve (12) consecutive month period" to, "Less than 150 tons VOC applied per twelve (12) consecutive month period."

Response #6

In order to clarify the language on the Part 70 Quarterly Report Form, the following change has been made to the form to reflect exactly what Conditions D.1.1(a) through (d) require:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: GBMD, Inc.
Source Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Mailing Address: 1520 Mishawaka Street, Elkhart, Indiana 46515
Part 70 Permit No.: T039-6921-00312
Facility: One (1) surface coating paint booth (EU2), and two (2) assembly areas (EU4)
Parameter: Volatile organic compounds (VOC)
Limit: ~~less than 150 tons per twelve (12) consecutive month period~~

(a) The total volatile organic compound (VOC) input from the application of paints, sealants, and adhesives, including any cleanup solvents, shall be limited to less than 150 tons per twelve (12) consecutive month period.

(b) The VOC content of the sealers applied shall not exceed 8.8 pounds per gallon less water, based on 30-day weighted average;

(c) The VOC content of the paints applied shall not exceed 6.1 pounds per gallon less water, based on 30-day weighted average; and

(d) The VOC content of the solvents applied shall not exceed 6.8 pounds per gallon less water, based on 30-day weighted average.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOCThis Month (tons)	VOC Previous 11 Months (tons)	12 Month Total VOC (tons)
Month 1			
Month 2			
Month 3			

30-day Weighted Average VOC Content (in pounds per gallon less water):
Sealers:_____ **Paints:**_____ **Solvents:**_____

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

A certification is not required for this report.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Nan GBMD, Inc.
Address City I 1520 Mishawaka Street, Elkhart, IN 46516
CP: 039-12046-00312
Plt ID: 039-00312
Reviewer: LQ/EVP
Date: May 9, 2000

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Sealers																
Sikaflex 221	9.9	4.43%	0.0%	4.4%	0.0%	0.00%	0.53300	1.420	0.44	0.44	0.33	7.99	1.46	15.71		50%
GC-33 Gun Clear	8.8	100.00%	0.0%	100.0%	0.0%	0.00%	0.02700	1.420	8.82	8.82	0.34	8.12	1.48	0.00		50%
F2100	8.7	1.84%	0.0%	1.8%	0.0%	0.00%	0.07900	1.000	0.16	0.16	0.01	0.30	0.06	1.47		50%
F2100A	10.2	0.00%	0.0%	0.0%	0.0%	0.00%	0.06700	1.000	0.00	0.00	0.00	0.00	0.00	1.50		50%
502 LSW	10.7	25.00%	0.0%	25.0%	0.0%	0.00%	0.53300	1.420	2.67	2.67	2.02	48.50	8.85	13.28		50%
Adhesives																
676 Spray adhesi	5.7	64.57%	0.0%	64.6%	0.0%	0.00%	1.10200	1.420	3.70	3.70	5.79	138.95	25.36	6.96		50%
SC-0676 Construc	9.6	32.81%	0.0%	32.8%	0.0%	0.00%	1.10200	1.420	3.15	3.15	4.93	118.29	21.59	22.10		50%
Paints																
Flat Black Spray	6.4	84.91%	0.0%	84.9%	0.0%	0.00%	0.77900	1.420	5.41	5.41	5.98	143.59	26.21	2.33		50%
BC Bases and Co	9.5	64.41%	0.0%	64.4%	0.0%	0.00%	0.77900	1.420	6.10	6.10	6.75	161.93	29.55	8.16		50%
Caulk																
Acrylic Latex	13.9	1.40%	0.0%	1.4%	0.0%	0.00%	0.48700	1.420	0.20	0.20	0.13	3.24	0.59	20.80		50%
Cleaning Solvent																
Methyl Ethyl Keto	6.8	100.00%	0.0%	100.0%	0.0%	0.00%	0.04000	1.420	6.76	6.76	0.38	9.22	1.68	0.00		50%
Mineral Spirits	6.7	100.00%	0.0%	100.0%	0.0%	0.00%	0.80300	1.420	6.67	6.67	7.61	182.53	33.31	0.00		50%

State Potential Emissions **34.28** **822.66** **150.14** **92.32**

Federal Potential Emissions (controlled):

Control Efficiency:		Controlled	Controlled	Controlled	Controlled
VOC	PM	VOC lbs per Hour	VOC lbs per Day	VOC tons per Year	PM tons/yr
0.00%	90.00%	**34.28**	**822.66**	**150.14**	**9.23**

Methodology

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Appendix A: Emission Calculations
HAP Emission Calculations

Company Nan GBMD, Inc.
Address City I 1520 Mishawaka Street, Elkhart, IN 46516
CP#: 039-12046-00312
Plt ID: 039-00312
Permit Reviev LQ/EVP
Date: May 9, 2000

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour	Weight % Xylene	Weight % Toluene	Weight % Ethyl Benzene	Weight % MIBK	Weight % Hexane	Weight % MDI	Weight % MEK	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	MIBK Emissions (ton/yr)	Hexane Emissions (ton/yr)	MDI Emissions (ton/yr)	MEK Emissions (ton/yr)
Methyl Ethyl Ket	6.8	0.040000	1.42	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00	0.00	0.00	0.00	0.00	0.00	1.69
Black Spray Pair	6.4	0.779000	1.42	5.20%	6.10%	1.30%	0.00%	0.00%	0.00%	0.00%	1.61	1.89	0.40	0.00	0.00	0.00	0.00
Sikaflex 221	9.9	0.533000	1.42	5.00%	0.00%	15.00%	0.00%	0.00%	0.00%	0.00%	1.64	0.00	4.92	0.00	0.00	0.00	0.00
F2100A	10.2	0.067000	1.42	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	0.00%	0.00	0.00	0.00	0.00	0.00	2.13	0.00
BC Bases and C	9.5	0.779000	1.42	25.00%	0.00%	10.00%	50.00%	0.00%	0.00%	0.00%	11.51	0.00	4.60	23.01	0.00	0.00	0.00
676 Spray Adhe	5.7	1.102000	1.42	0.00%	0.00%	0.00%	0.00%	35.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	13.67	0.00	0.00
502 LSW	10.7	1.102000	1.42	0.00%	15.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	11.59	0.00	0.00	0.00	0.00	0.00
SC-0676	9.6	1.102000	1.42	0.00%	30.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00	19.74	0.00	0.00	3.29	0.00	0.00
Total State Potential Emissions											**14.76**	**33.22**	**9.93**	**23.01**	**16.96**	**2.13**	**1.69**

Total = **101.70**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs